

REMARKS

Claims 1 to 8 are in the application, with Claim 1 being the sole independent claims. Reconsideration and further examination are respectfully requested.

Claims 1 to 8 were rejected under 35 U.S.C. §102(e) over U.S. Patent No. 6,211,454 (Sano '454). The rejection is respectfully traversed.

The invention concerns a silicon-based film comprising a crystal phase which is formed on a substrate. The substrate has a surface shape represented by a function f and has a standard deviation of an inclination $\arctan(df/dx)$ from 15° to 55° within the range of sampling length dx from 20 nm to 100 nm. A Raman scattering strength resulting from an amorphous component in the silicon-based film is not more than a Raman scattering strength resulting from a crystalline component in the silicon-based film. A difference between a spacing in a direction parallel to a principal surface of the substrate and a spacing of single crystal silicon is within the range of 0.2% to 1.0% with regard to the spacing of the single crystal silicon.

Thus, according to one feature of the invention, a difference between a spacing in a direction parallel to a principal surface of the substrate and a spacing of single crystal silicon is within the range of 0.2% to 1.0% with regard to the spacing of the single crystal silicon. This difference in spacing can be achieved by promoting the displacement of silicon ions adhering to the substrate using such methods as increasing high frequency power at the early stage of film formation, or introducing an inert gas such as He, Ar or Ne at the early stage of film formation. See paragraph [0059] at pages 16 and 17 of the specification. (All citations to specification refer to substitute specification submitted on November 4, 2002.)

The Office Action concedes that Sano '454 fails to explicitly disclose the

foregoing feature. Yet, the Office Action takes the position that this feature is inherent in Sano '454. Applicants respectfully disagree.

Sano '454 does describe a photovoltaic element in which the distance from the conductive layer surface to the substrate surface (represented by a function f) has a standard deviation of an inclination $\arctan(df/dx)$ from 15° to 55° within the range of a sampling length dx from 20 nm to 100 nm. However, it does not necessarily follow that the difference between a spacing in a direction parallel to the principle surface of the substrate and a spacing of single crystal silicon is within the claimed range of 0.2 % to 1.0 %. Other arrangements are possible.

For example, as shown in Table 6 of the present specification (page 34), the difference in spacing can be changed by changing the high frequency power. In Comparative Example 6-1, the difference in spacing is 0.1%; in Comparative Example 6-2, the difference in spacing is 1.5%. As demonstrated by these comparative examples, Sano '454 might also have a difference in spacing falling outside of the claimed range of 0.2% to 1.0%.

Applicants note that the fact that a certain result or characteristic may be present in a reference is insufficient to establish inherency. See MPEP § 2112. To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in that which is being described in the reference.

Accordingly, if the rejection over Sano '454 is maintained, the Office is respectfully requested to provide extrinsic evidence clearly demonstrating that Sano 454's device necessarily has a difference in spacing falling within the claimed range of 0.2% to 1.0%.

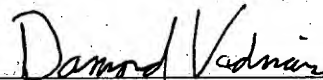
In view of the foregoing, Applicants conclude that Sano '454 does not teach or suggest the claimed invention, and it is respectfully requested that the Section 103 rejection be

withdrawn.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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